CBCS SCHEME

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21ARC75

Seventh Semester B.Arch. Degree Examination, June/July 2025
Estimation and Costing

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. What is estimate? Explain the need for estimation and costing. **(10 Marks)**

b. Write a note on detailed estimate. **(10 Marks)**

OR

2 Explain the following types of estimate:
(i) Preliminary estimate (ii) Plinth area estimate (iii) Cube rate estimate
(iv) Supplementary estimate (v) Annual repair or maintenance estimate. **(20 Marks)**

Module-2

3 a. Estimate the quantities of the following item of two roomed building from Fig.Q3:
(i) Earthwork excavation in foundation
(ii) PCC bed concrete 1:4:8
(iii) First class brick masonary in CM 1:6
(Both long wall and short wall method and centre line method) **(20 Marks)**

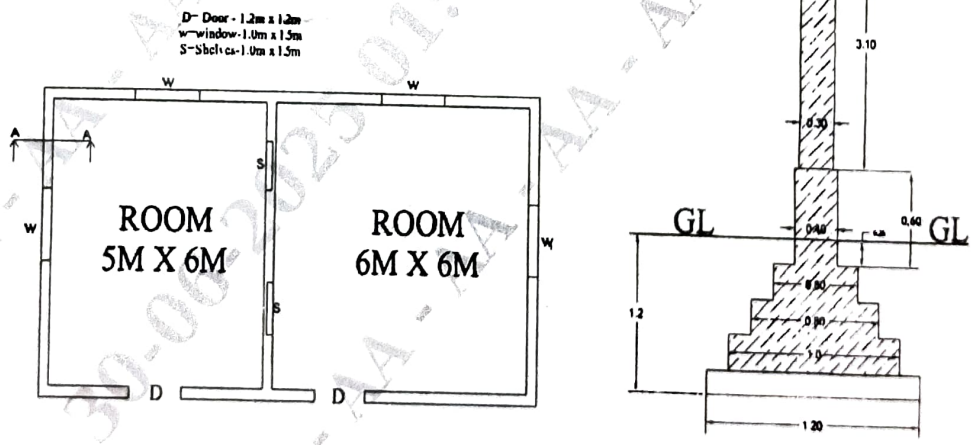

Fig.Q3

OR

4 Estimate the quantities of the following item of a two roomed building from Fig.Q4.
(i) Earth work in excavation in foundation
(ii) Cement concrete in foundation
(iii) Size stone masonary in CM 1:6 for foundation and plinth
(iv) 2.5 cm damp proof course (DPC)
(v) First class brick work in CM 1:4 for super structure. Use long wall and short wall method. **(20 Marks)**

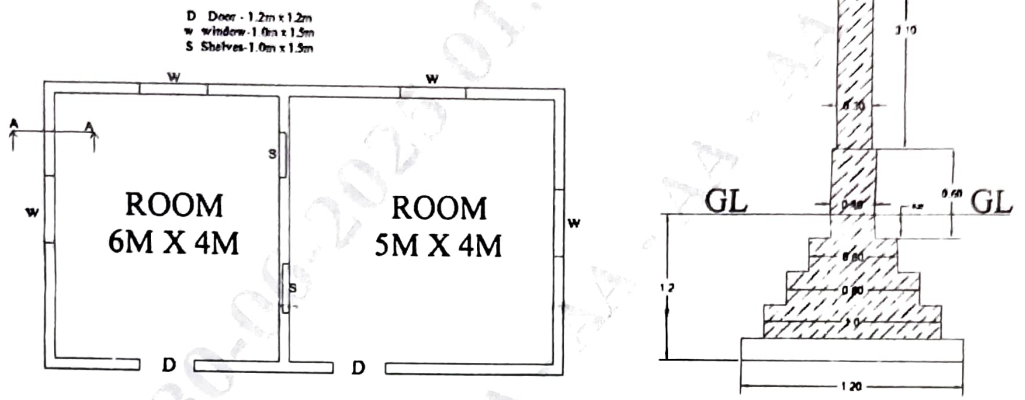

Fig.Q4

Module-3

5 Write a detailed specification for the following:
a. First class brick work in cement mortar (CM) 1:6
b. Cement plastering in CM 1:6
c. 25 cm thick cement concrete flooring (1 : 2 : 4)
d. Earth work in excavation for foundation. **(20 Marks)**

OR

6 Prepare a detailed estimate of RCC roof slab of span 3m clear span 12 cm thick and 6 m long. Slab bearing on masonary is 150 mm alround. Reinforcement consist of 12 mm diameter main bars at 15 cm c/c alternate bent up and distribution 6 mm diameter at 18 c/c. RCC work in centering and shuttering but excluding reinforcement is Rs. 7500/m^3. Providing and tying reinforcement is Rs.90/- per kg. Do sketching and prepare a schedule of bars. Assume $d^2/162$ to derive weight of all bars in kg per meter, d is the diameter of bar in mm or 7850 kg/m^3 as density. **(20 Marks)**

Module-4

7 a. Define rate analysis. List and explain the sub head costs taken into account. **(10 Marks)**

b. List and explain the different factors affecting the rate analysis. **(10 Marks)**

OR

8 Carry out the rate analysis for the following :
(i) Earth work excavation for foundation in ordinary soil.
(ii) PCC bedding 1 : 4 : 8 for foundation
(iii) Coursed rubble masonary in CM 1:6
(iv) Painting plastered surface including preparation of surface. **(20 Marks)**

Module-5

9 Prepare detailed estimate for a septic tank with soak pit shown in Fig.Q9 for the following items work.

a. Earth work in excavation
b. First class brick work in CM 1:4 for side wall
c. R.C.C. (1 : 2 : 4) for cover slab with 1% steel reinforcement for septic tank and soak pit.

(20 Marks)

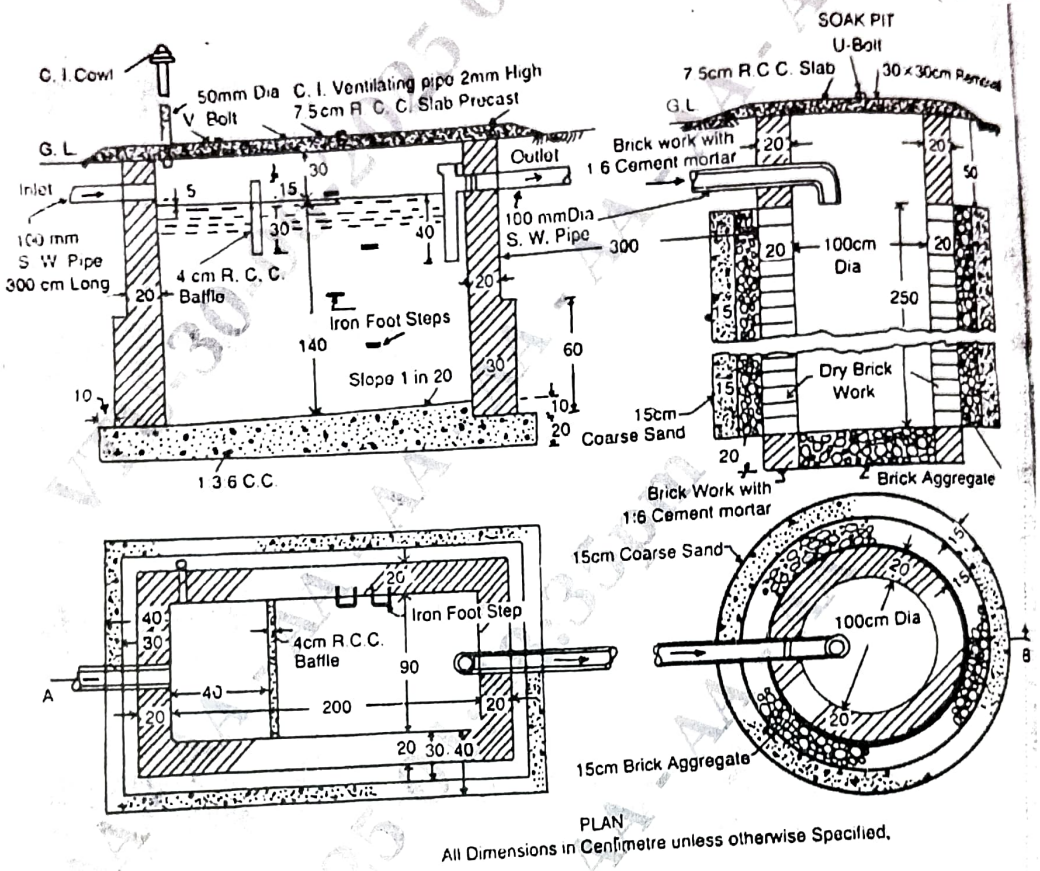

Fig.Q9

OR

10 Write short notes on the following :

a. EMD and Security retention
b. RA bill and final bill
c. Liquidated and unliquidated damages
d. Safety norms to be followed at site
e. Measurement book and its importance

(20 Marks)

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